

11 version of the selected product having a degraded perceived
12 quality;
13 e) performing steps b) through d) at least once;
14 f) the client transmitting to the server a purchase decision
15 and payment instrument;
16 g) the server and gateway communicating to obtain payment
17 authorization for the requested product from the payment
18 instrument;
19 h) the server and gateway communicating to effect payment
20 capture for the authorized payment; and
21 i) the server transmitting to the client a non-degraded
22 version of the selected product.

REMARKS

The claims are claims 1 to 7 and 9 to 46.

Claims 1, 2, 7, 9, 10, 16 to 25, 27, 28, 30, 34, 35, 39, 42, 43 and 46 have been amended. These amendments chiefly emphasize that the degraded signal is degraded in perceived quality. Claim 1 has been amended to recite that the degradation in perceived quality corresponding to the defined level of content degradation as recited in claim 2. This limitation has been deleted from claim 2. Claim 7 has been amended to include limitations of canceled claim 8. Claims 9 and 10 have been amended to depend upon claim 7 rather than canceled claim 8. Claim 34 has been amended to include recitations from claim 2 rather than improperly reciting dependency upon two claims (2 and 30).

A proposed drawing change is attached. Figure 8 is amended by inclusion of reference number 22 as described in the text of the application at page 16, line 28 to page 17, line 2.

Claims 1 to 46 were rejected under 35 U.S.C. 103(a) as made obvious by the combination of Kaplan U.S. Patent No. 5,963,916 and Shaw et al U.S. Patent No. 6,091,857. The OFFICE ACTION states that Kaplan shows all of the limitations of the claims except for specifying the degraded signal for the samples and some details as to how the digital signal is processed and that Shaw et al. teaches a system and method for producing a quantized signal where the broadcaster has the control to select the appropriate quality level that he or she wants in order to conserve bandwidth. The OFFICE ACTION states at page 3, lines 1 to 3:

"Based on the teaching of Shaw et al., it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify Kaplan system to select the appropriate quality level (degraded level) in order to conserve bandwidth."

The examiner takes official notice the digital signal processes claimed are known and that discrete Fourier transforms, frequency modulator and frequency band rejections are known.

Claims 1, 35, 42 and 43 each recite subject matter not made obvious by the combination of Kaplan and Shaw et al. Apparatus claims 1 and 43 each recite "a processing core operable to apply a defined level of content degradation to the digital audio/video signal creating a degraded digital audio/video signal having a degradation in perceived quality corresponding to said defined level of content degradation." Apparatus claim 42 similarly recites "means for processing the digital audio/video signal associated with the selected product to apply a defined level of content degradation thereto; and means for outputting the degraded digital audio/video signal to the network connection, the degraded digital audio/video signal having a degraded perceived quality corresponding to the defined level of content degradation." Method claim 35 recites "applying a defined level of content degradation

to the digital audio/video signal to generate a degraded digital audio/video signal having a degradation in perceived quality corresponding to said defined level of content degradation." As recited in claims 1, 35, 42 and 43 a defined level of content degradation is selected and then the audio/video signal transmitted is degraded in perceived quality corresponding to that level of content degradation. This application states at page 3, lines 16 to 23:

"It is therefore possible for a content provider to change the characteristics of an audio or video data stream supplied over a network or other public communications system to a potential purchaser by degrading it in a controlled and variable manner. The amount of degradation is preferably sufficient to enable a potential purchaser to appreciate the characteristics of the audio or video product, whilst reducing the perceived quality. In addition, the changes to the characteristics of the audio or video data stream are preferably such that the original high-fidelity product cannot be reconstructed from the low-fidelity pre-purchase sample."

This goal of the degradation is to enable the customer to sample the product without serving as a substitute for the product and so compromising future purchases (see application at page 1, lines 26 and 27). Shaw et al teaches selection of "the appropriate quality level...in order to conserve bandwidth" (column 3, lines 34 to 36, cited in the OFFICE ACTION). The goal of this application differs from and is unobvious over the teachings of Shaw et al. In Shaw et al the signal quality is selected to conserve bandwidth of transmission. In this invention the signal quality is selected to enable sampling of the product without substituting for the product. Bandwidth is not a consideration in the selection of signal quality in this invention. The plural degradation processes taught in this application in conjunction with Figures 3 to 28 degrade the perceived quality of the signal without reducing its bandwidth. Accordingly, the Shaw et al teaching of selecting a

quality to conserve bandwidth fails to make obvious the degradation recited in claims 1, 35, 42 and 42.

Claims 39 and 46 recite subject matter not made obvious by the combination of Kaplan and Shaw et al. Claims 39 and 46 each recite both "transmitting to the client a degraded evaluation version of the selected product, the degraded evaluation version of the selected product having a degraded perceived quality" and "transmitting to the client a non-degraded version of the selected product." The combination of Kaplan and Shaw et al fails to make obvious the transmission of a degraded evaluation version and a non-degraded version of the selected product. Neither Kaplan nor Shaw et al include any teachings why supplying the same selected product in degraded and non-degraded versions is advantageous. Note the OFFICE ACTION fails to point out where either Kaplan or Shaw et al makes obvious these limitations of claims 39 and 46. Accordingly, claims 39 and 46 are allowable over the combination of Kaplan and Shaw et al.

Claims 3, 36 and 40 recite subject matter not made obvious by the combination of Kaplan and Shaw et al. Claims 3 and 36 each recite "the degrade level signal is dependent on a client integrity indicator determined from a personal client file containing client history data." Claim 40 similarly recites "said evaluation version is degraded as a function of a client history." The OFFICE ACTION points to no disclosure of Kaplan or Shaw et al as making the signal quality dependent upon a client history. Nothing in Kaplan or Shaw et al teaches that the transmission quality level is dependent upon a client history. Accordingly, claims 3, 36 and 40 are allowable over Kaplan and Shaw et al.

Claims 4, 37 and 41 recite subject matter not made obvious by the combination of Kaplan and Shaw et al. Claims 4 and 37 each recite that the signal degradation is dependent upon "an authorization response" "following an authorization request from

the dialogue unit including a client i.d., a client payment instrument and a monetary value of the product selected for evaluation." Claim 41 similarly recites "said evaluation version is degraded as a function of said client payment instrument." The OFFICE ACTION points to no disclosure of Kaplan or Shaw et al as making the signal quality dependent upon a client payment instrument. Nothing in Kaplan or Shaw et al teaches that the transmission quality level is dependent upon a client payment instrument. Accordingly, claims 4, 37 and 41 are allowable over Kaplan and Shaw et al.

Claims 6, 7, 10, 11, 14 to 28 and 30 to 34 recite subject matter not made obvious by the combination of Kaplan and Shaw et al. Claim 6 recites noise insertion circuitry. Claim 7 recites "the manipulation process applied by the frequency modulator is such as to effect a degradation of perceived signal quality in the digital audio/video signal reconstructed by the inverse digital Fourier transform unit." Claim 10 recites "phase inversion over at least one range of frequencies." Claim 11 recites the frequency modulator "inserts masked sound contributions adjacent amplitude peaks of the frequency domain representation of the digital audio signal." Claim 14 recites the manipulation process "inserts masked sound contributions adjacent the mixing frequency." Claim 15 recites "a frame manipulator operatively arranged to manipulate frames in the frame buffer to generate a degraded digital video signal." Claim 16 recites the frame manipulator is operable "effect a degradation of perceived video signal quality" "according to frame type." Claim 17 recites the frame manipulator is operable "to vary the pixels of the data blocks of at least selected ones of the frames so as to effect a degradation of perceived video signal quality." Claim 18 recites the frame manipulator is operable "to vary the motion vectors of at least selected ones of the frames so as to effect a degradation of perceived video signal quality."

Claim 19 recites the frame manipulator is operable "to manipulate the objects of at least selected ones of the frames so as to effect a degradation of perceived video signal quality." Claim 20 recites the processing core switches "individual channels within the multi-channel signal to apply spatial modification to the digital audio signal so as to effect a degradation of perceived digital audio signal quality." Claim 21 recites the processing core inverts "the phase of at least one of the audio channels so as to effect a degradation of perceived digital audio signal quality." Claim 22 recites the processing core adds "together individual ones of the channels so as to effect a degradation of perceived digital audio/video signal quality." Claim 23 recites the processing core operates "by removal or attenuation of at least one of the channels so as to effect a degradation of perceived digital audio/video signal quality." Claim 24 recites the processing core operates "to convert the n-bit digital audio signal into an m-bit digital audio signal where m is less than n so as to effect a degradation of perceived digital audio signal quality." Claim 25 recites the processing core operates "to time modulate the digital audio/video signal so as to effect a degradation of perceived digital audio signal quality." Claim 26 recites this time modulation is "is one or more of: a speed-up or slow-down the digital audio/video signal; a change in the value of data bits in volume, luminance or chrominance data contained within the digital audio/video signal; and a lengthening of a sampling period of the digital audio/video signal." Claim 27 recites "an analog processing unit operable to apply a defined level of audio/video degradation to the analog signal creating a degraded analog audio signal having a degradation in perceived quality corresponding to said defined level of content degradation." Claim 28 recites the analog processing unit operates "to apply frequency domain modulation to an analog audio signal so as to effect a degradation of perceived audio signal quality."

Claim 30 recites "a mixer for adding a secondary signal to the digital audio/video signal so as to effect a degradation of perceived digital audio/video signal quality." Claim 31 recites "a signal generator for generating the secondary signal." Claim 32 recites the signal generator is "a noise generator." Claim 33 recites the signal generator operates "to generate a content-based audio signal." Claim 34 recites "the level of the secondary signal mixed with the digital audio/video signal is determined by the degrade level signal." The Applicants respectfully submit that neither Kaplan nor Shaw et al make obvious this subject matter of claims 6, 7, 10, 11, 14 to 28 and 30 to 34. Note that the OFFICE ACTION fails to point out where either Kaplan or Shaw et al makes obvious any of the limitations of claims 6, 7, 10, 11, 14 to 28 and 30 to 34.

The Applicants respectfully submit that the Examiner's comments regarding the use of "standard digital processes in order to manipulate digital products" are not relevant. The OFFICE ACTION fails to point out where Kaplan and Shaw et al teach the use of "standard digital processes in order to manipulate digital products" in the manner recited in claims 6, 7, 10, 11, 14 to 28 and 30 to 34. The Applicants respectfully submit that the use of "standard digital processes in order to manipulate digital products" in a manner not previously known is patentable. Accordingly, claims 6, 7, 10, 11, 14 to 28 and 30 to 34 are allowable over Kaplan and Shaw et al.

Claim 45 recites subject matter not made obvious by the combination of Kaplan and Shaw et al. Claim 45 recites "the dialogue unit being operable to supply a packet decoder to the client over the network for decoding the digital video/audio signal" whereby the client can decode encrypted data packets transmitted from the server. Claim 45 further recites "the client input stage is configured to corrupt the decryption key of any

given data packet before the decoded data of that packet is transmitted from the input stage in a form playable by the reproduction system." The Applicants respectfully submit that the combination of Kaplan and Shaw et al fail to make obvious this subject matter. Further, the OFFICE ACTION fails to point out any portion of Kaplan or Shaw et al as allegedly making this subject matter obvious. Accordingly, claim 45 is allowable over Kaplan and Shaw et al.

The Applicants respectfully submit that all the present claims are allowable for the reasons set forth above. Therefore early reconsideration and advance to issue are respectfully requested.

If the Examiner has any questions or other correspondence regarding this application, Applicants request that the Examiner contact Applicants' attorney at the below listed telephone number and address to facilitate prosecution.

Texas Instruments Incorporated
P.O. Box 655474 M/S 3999
Dallas, Texas 75265
(972) 917-5290
Fax: (972) 917-4418

Respectfully submitted,

Robert D. Marshall, Jr.
Robert D. Marshall, Jr.
Reg. No. 28,527

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Note inserted text is marked by underlining and deleted text is marked by ~~strikeout~~.

In the Claims

Please amend the claims as follows:

- 1 1. (Amended) A server for a merchant computer system, the server
2 comprising:
3 a file store configured to store a range of audio/video
4 products in respective product files;
5 a dialogue unit operable to invite and receive a client
6 selection from among the products;
7 a product reader connected to read the product files from the
8 file store to generate a digital audio/video signal; and
9 a signal processing unit having an input selectively
10 connectable to receive the digital audio/video signal from the
11 product reader, a processing core operable to apply a defined level
12 of content degradation to the digital audio/video signal creating a
13 degraded digital audio/video signal having a degradation in
14 perceived quality corresponding to the defined level of content
15 degradation, and an output connected to output the degraded digital
16 audio/video signal.
- 1 2. (Amended) A server according to claim 1, wherein the dialogue
2 unit is operable to generate a degrade level signal, the signal
3 processing unit having a degrade level signal input for receiving a
4 degrade level signal from the dialogue unit ~~and being operable to~~
5 ~~vary the degradation level responsive to the degrade level signal.~~

1 7. (Amended) A server according to claim 5, the digital signal
2 processor including:

3 a discrete Fourier transform unit operable to apply a discrete
4 Fourier transform to obtain a frequency domain representation of
5 the digital audio/video signal;

6 a frequency modulator operable to apply a manipulation process
7 to the frequency domain representation of the digital audio/video
8 signal; and

9 an inverse discrete Fourier transform unit operable to apply
10 an inverse discrete Fourier transform to reconstruct a time domain
11 representation of the digital audio/video signal;

12 wherein the manipulation process applied by the frequency
13 modulator is such as to effect a degradation of perceived signal
14 quality in the digital audio/video signal reconstructed by the
15 inverse digital Fourier transform unit.

Cancel claim 8.

1 9. (Amended) A server according to claim & 7, wherein the
2 manipulation process includes one or more of the following:
3 frequency band rejections, frequency low pass and frequency high
4 pass.

1 10. (Amended) A server according to claim & 7, wherein the
2 manipulation process includes phase inversion over at least one
3 range of frequency components.

1 16. (Amended) A server according to claim 15, wherein the digital
2 signal processor is configured to process digital video signals
3 conforming to an MPEG standard including as frame types I-frames,
4 P-frames and B-frames, wherein the frame manipulator is operable to
5 identify the frame type of frames held in the frame buffer, and

6 operable to perform frame manipulation according to frame type so
7 as to ~~degrade~~ effect a degradation of perceived video signal
8 quality.

1 17. (Amended) A server according to claim 15, wherein the digital
2 signal processor is configured to process digital video signals
3 conforming to an MPEG standard including data blocks, each
4 comprising a plurality of pixels, wherein the frame manipulator is
5 operable to vary the pixels of the data blocks of at least selected
6 ones of the frames so as to ~~degrade~~ effect a degradation of
7 perceived video signal quality.

1 18. (Amended) A server according to claim 15, wherein the digital
2 signal processor is configured to process digital video signals
3 conforming to an MPEG standard including motion vectors, wherein
4 the frame manipulator is operable to vary the motion vectors of at
5 least selected ones of the frames so as to ~~degrade~~ effect a
6 degradation of perceived video signal quality.

1 19. (Amended) A server according to claim 15, wherein the digital
2 signal processor is configured to process digital video signals
3 conforming to an MPEG standard including objects, wherein the frame
4 manipulator is operable to manipulate the objects of at least
5 selected ones of the frames so as to ~~degrade~~ effect a degradation
6 of perceived video signal quality.

1 20. (Amended) A server according to claim 1, wherein the
2 processing core is operable to process a multi-channel digital
3 audio signal by switching individual channels within the multi-
4 channel signal to apply spatial modification to the digital audio
5 signal so as to effect a degradation of perceived digital audio
6 signal quality.

1 21. (Amended) A server according to claim 1, wherein the
2 processing core is operable to process a multi-channel digital
3 audio signal by inverting the phase of at least one of the audio
4 channels so as to effect a degradation of perceived digital audio
5 signal quality.

1 22. (Amended) A server according to claim 1, wherein the
2 processing core is operable to process a multi-channel digital
3 audio/video signal by adding together individual ones of the
4 channels so as to effect a degradation of perceived digital
5 audio/video signal quality.

1 23. (Amended) A server according to claim 1, wherein the
2 processing core is operable to process a multi-channel digital
3 audio/video signal by removal or attenuation of at least one of the
4 channels so as to effect a degradation of perceived digital
5 audio/video signal quality.

1 24. (Amended) A server according to claim 1, wherein the digital
2 audio/video signal comprises an n-bit digital audio signal and the
3 processing core is operable to convert the n-bit digital audio
4 signal into an m-bit digital audio signal where m is less than n so
5 as to effect a degradation of perceived digital audio signal
6 quality.

1 25. (Amended) A server according to claim 1, wherein the
2 processing core is operable to time modulate the digital
3 audio/video signal so as to effect a degradation of perceived
4 digital audio signal quality.

1 27. (Amended) A server according to claim 1, wherein the
2 processing core comprises:

3 a first data converter arranged as an input stage to convert
4 the digital audio/video signal into an analog audio/video signal;

5 an analog processing unit operable to apply a defined level of
6 audio/video degradation to the analog signal creating a degraded
7 analog audio signal having a degradation in perceived quality
8 corresponding to said defined level of content degradation;

9 a second data converter arranged as an output stage to convert
10 the degraded analog signal into a degraded digital audio/video
11 signal for output.

1 28. (Amended) A server according to claim 27, wherein the analog
2 processing unit is operable to apply frequency domain modulation to
3 an analog audio signal so as to effect a degradation of perceived
4 audio signal quality.

1 30. (Amended) A server according to claim 1, wherein the
2 processing core comprises a mixer for adding a secondary signal to
3 the digital audio/video signal so as to effect a degradation of
4 perceived digital audio/video signal quality.

1 34. (Amended) A server according to claim 30, ~~when appended to~~
2 ~~claim 27~~ wherein the dialogue unit is operable to generate a
3 degrade level signal, the signal processing unit having a degrade
4 level signal input for receiving a degrade level signal from the
5 dialogue unit and wherein the level of the secondary signal mixed
6 with the digital audio/video signal is determined by the degrade
7 level signal.

1 35. (Amended) A method of operating a server of a merchant
2 computer system, the method comprising:

3 inviting a client to make a selection from a range of
4 audio/video products stored by the server in product files;
5 receiving a client selection for evaluation of one of the
6 products;
7 reading the selected product file to generate a digital
8 audio/video signal;
9 applying a defined level of content degradation to the digital
10 audio/video signal to generate a degraded digital audio/video
11 signal having a degradation in perceived quality corresponding to
12 said defined level of content degradation; and
13 outputting the degraded digital audio/video signal to the
14 client.

1 39. (Amended) A method of communicating between a client, server
2 and gateway on a computer network, the method comprising:
3 a) the client establishing communication with the server to
4 identify the client and a client payment instrument to the server;
5 b) the server transmitting to the client a range of
6 audio/video products for supply in return for payment;
7 c) the client transmitting to the server an evaluation
8 request for one of the products;
9 d) the server and gateway communicating to obtain payment
10 authorization for the requested product from the payment
11 instrument;
12 e) the server transmitting to the client a degraded
13 evaluation version of the selected product, the degraded evaluation
14 version of the selected product having a degraded perceived
15 quality;
16 f) the client transmitting to the server a payment decision;
17 g) the server and gateway communicating to effect payment
18 capture for the authorized payment; and

19 h) the server transmitting to the client a non-degraded
20 version of the selected product.

1 42. (Amended) A server apparatus comprising:
2 means for supplying a range of audio/video products as
3 respective digital audio/video signals;
4 means for inviting and receiving a client selection from among
5 the products via a network connection; and
6 means for processing the digital audio/video signal associated
7 with the selected product to apply a defined level of content
8 degradation thereto; and
9 means for outputting the degraded digital audio/video signal
10 to the network connection, the degraded digital audio/video signal
11 having a degraded perceived quality corresponding to the defined
12 level of content degradation, whereby a degraded version of the
13 selected product is supplied to the client.

1 43. (Amended) A merchant computer system comprising a server and a
2 client interconnectable over a network, wherein the server
3 comprises:
4 a file store configured to store a range of audio/video
5 products in respective product files;
6 a dialogue unit having a network connection and operable to
7 invite and receive a client selection from among the products via
8 the network connection;
9 a product reader connected to read the product files from the
10 file store to generate a digital audio/video signal; and
11 a signal processing unit having an input connectable to
12 receive the digital audio/video signal from the product reader, a
13 processing core operable to apply a defined level of content
14 degradation to the digital audio/video signal creating a degraded
15 digital audio/video signal having a degradation in perceived

16 quality corresponding to said defined level of content degradation,
17 and an output connected to output the degraded digital audio/video
18 signal from the processing core to the network connection.

1 46. (Amended) A method of communicating between a client, server
2 and gateway on a computer network, the method comprising:

3 a) the client establishing communication with the server to
4 identify the client;

5 b) the server transmitting to the client a range of
6 audio/video products for supply in return for payment;

7 c) the client transmitting to the server an evaluation
8 request for one of the products;

9 d) the server transmitting to the client a degraded
10 evaluation version of the selected product, the degraded evaluation
11 version of the selected product having a degraded perceived
12 quality;

13 e) performing steps b) through d) at least once;

14 f) the client transmitting to the server a purchase decision
15 and payment instrument;

16 g) the server and gateway communicating to obtain payment
17 authorization for the requested product from the payment
18 instrument;

19 h) the server and gateway communicating to effect payment
20 capture for the authorized payment; and

21 i) the server transmitting to the client a non-degraded
22 version of the selected product.